General Training On Methodologies For Geological Disposal in North America

IAEA Network of Centers of Excellence

Session 8:
External Technical Reviews of Nuclear Waste Disposal Programs
- Japanese Perspective -

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Importance of External Technical Reviews

- Ensure scientific soundness of products
- Strengthen and improve technical capabilities of the repository developer
- Increase confidence of not only the repository developer but also stakeholders as well as technical communities
- Provide transparency and traceability of integration / documentation

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Example Cases in Japanese Program

Subjects for review		External reviewers and review documents
H3	(PNC, 1992)	¥ AEC (1993)
H12	(JNC, 2000)	1st draft (in Japanese and English) ¥ AEC ¥ Japanese experts ¥ Nagra (1998) ¥ North-American experts (1999) 2nd draft (in English) ¥ OECD/NEA (1999) The final submitted to the Government ¥ AEC (2000)
Information Package	(NUMO, 2002)	¥ High-Level Radioactive Waste Disposal Expert Subcommittee, METI

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International Peer Review on H12
(OECD/NEA, 1999)

Workshop in Japan
Aug. 22-27, 1999

Major comments

Geological Environment:
- Complete and adequate description for the purpose of report
- More detailed investigations necessary to proceed within the siting process
- Expanded faulting scenarios added to the safety assessment

Engineering:
- High quality of technical basis (design methodology, extensive studies)

Safety Assessment:
- General methodology applied is compatible to that in other countries
- Sufficient technical basis enough to provide inputs to the future decisions
- Improvements of traceability and transparency throughout H12 is urged

→ Reflected to the Final Report

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AEC Review of H12 (AEC, 2000) : Summary

- The technical basis integrated in H12 satisfies the technical requirements in the 1997 Guidelines
- The long-term safety of a repository system is evaluated by a rigorous performance assessment method that includes a comprehensive evaluation of the uncertainties involved
- Despite remaining uncertainties at the generic stage of the R&D program, it was demonstrated that a geological repository would lead to negligible doses calculated to be sufficiently lower than the safety guidelines established in other countries and by international organizations

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Review Process of NUMO Information Package

- Internal review by the Domestic / International Technical Advisory Committee (ITAC/DTAC)
- Official external review by the Government (High-Level Radioactive Waste Disposal Expert Subcommittee, METI)
- Announcement of “Open Solicitation” on Dec. 19, 2002 with distribution to all 3,239 municipalities

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NUMO Domestic/International Technical Advisory Committee (DTAC/ITAC)

ITAC

Charles McCombie (Switzerland)
Johan Andersson (Sweden)
Mick Apted (USA)
Neil Chapman (UK)
Bernard Faucher (France)
Ian McKinley (Switzerland)
Juhani Vira (Finland)
Erik Webb (USA)

DTAC
(university professors, technical experts from relevant organizations)

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High-Level Radioactive Waste Disposal Expert Subcommittee, METI (2000~)

Aim

- Make external check & review of NUMO's siting processes to keep them in transparent manner, and if necessary, advise to NUMO
- Review the scientific and technical basis for selection of the PIAs, DIAs and the final disposal site

Members

- Prof. A. Morishima (chair.)
- 6~8 experts in social and technical areas

Major Activity

- Authorized NUMO's Information Package documents on Dec.5, 2002

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